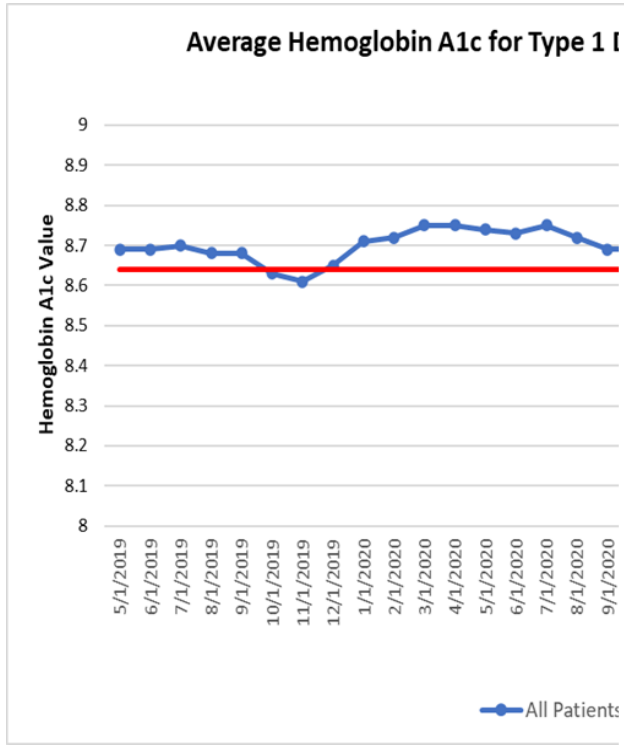
EDICT

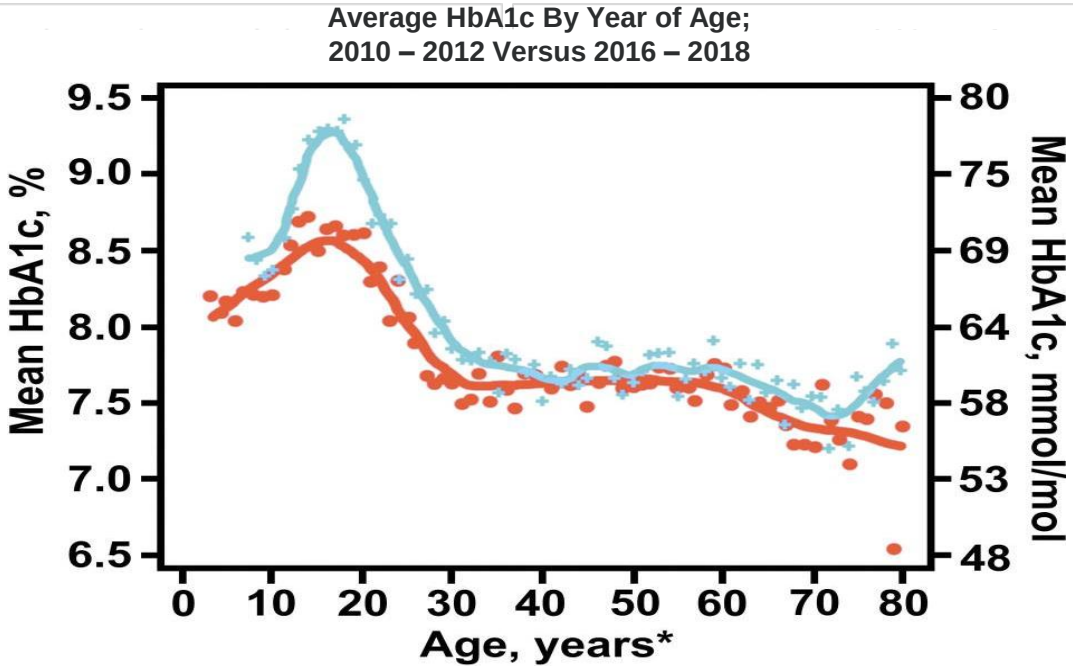
Equity in Diabetes Care & Transformation

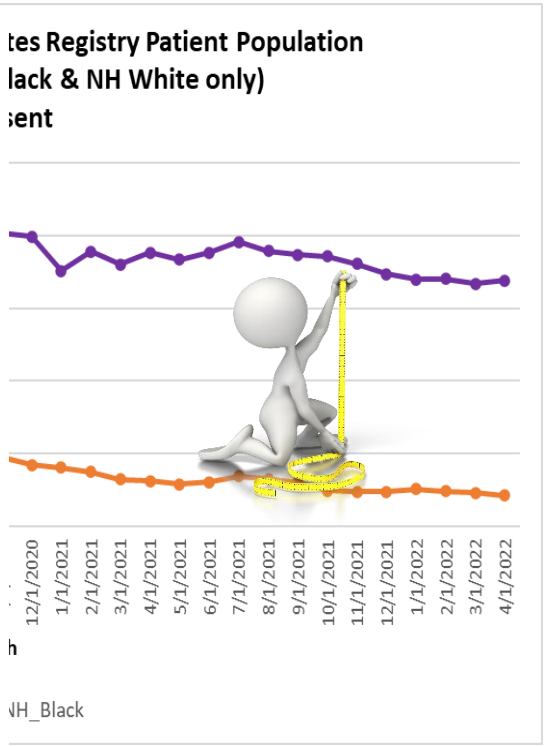
Mind the Gap: Lessons Learned from Addressing Inequities in CGM Access

Nana-Hawa Yayah Jones, MD

Background



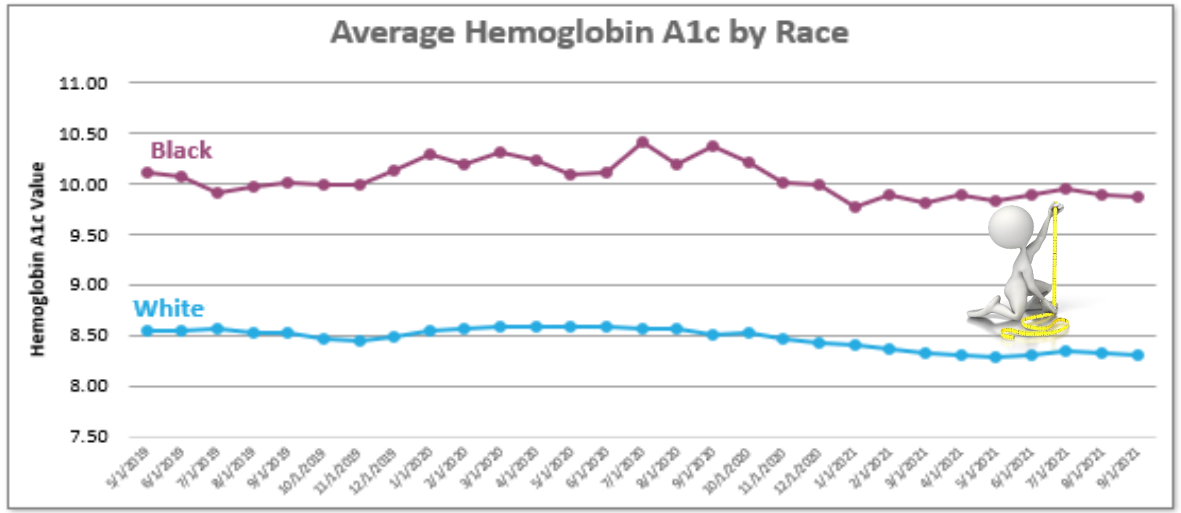


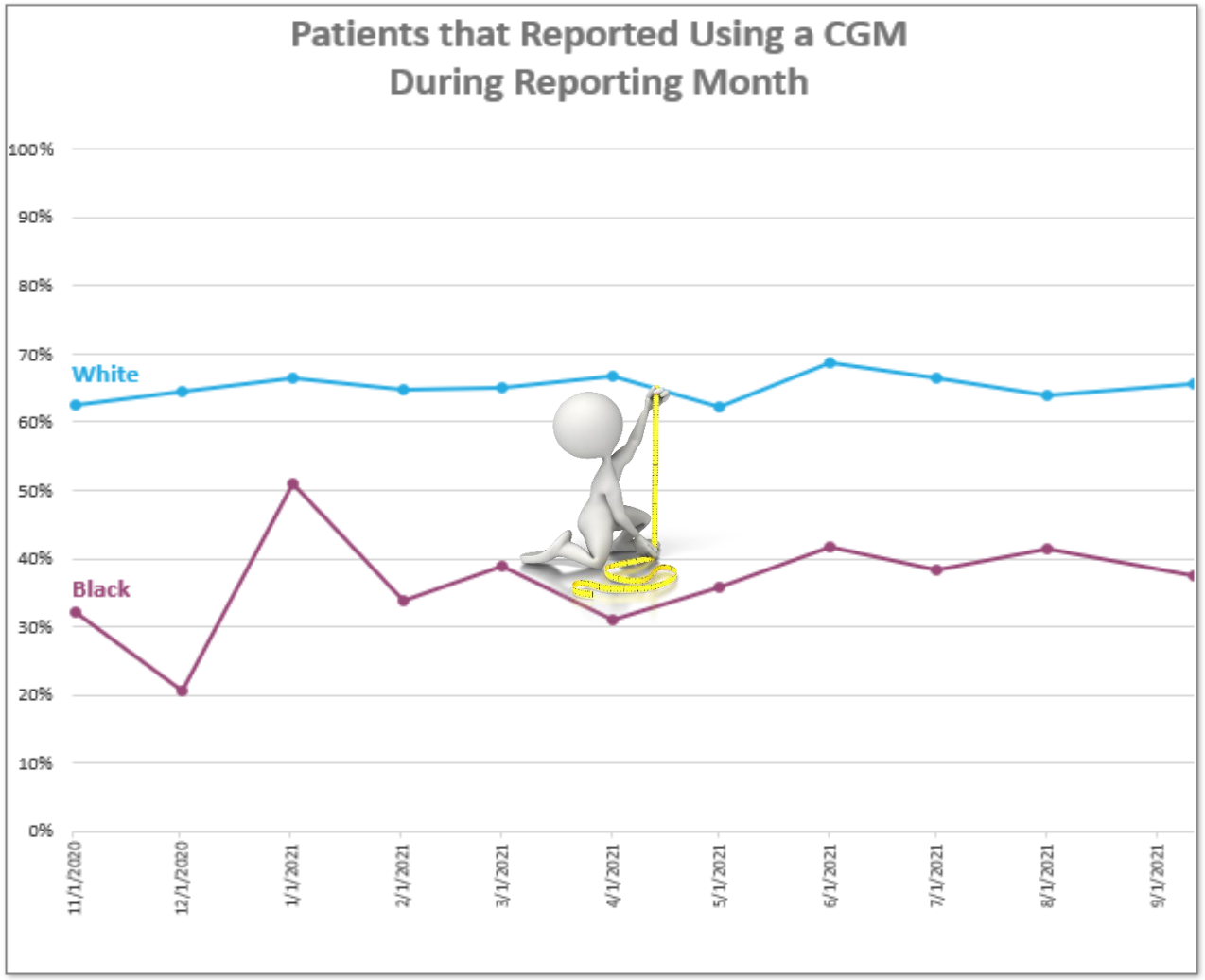


Despite improvements in hemoglobin A1c (HbA1c) nationally as reported by T1D Exchange and locally at Cincinnati Children's Hospital Medical Center…

- Nationally, morbidity and mortality in TID is grossly marred by key disparities and equity gaps
- Locally, Black T1D youth and youth on public insurance have higher HbA1c, lower rates of diabetes technology use, less clinic visits and higher rates of hospitalizations.

Improving Equity in Diabetes Technology Continuous Glucose Monitors (CGM)





Theory for Improvement

Cincinnati Children's
changing the outcome together

Global Aim

Reduce equity gaps in the care of pediatric patients with Type 1 Diabetes

SMART Aim

Increase the % of Black patients on CGM* from 54% to 70% by December 31, 2023.

Increase the % of Hispanic patients on CGM* from 41% to 70% by December 31, 2023.

*Patients who reported using CGM at clinic visit during reporting month

Population

Patients with Type 1 Diabetes seen at CCHMC DM Center

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- Shared decision making between staff/providers and families/patients
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- Affordable technology access across the continuum of care
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- Effective and equitable health care policy and access throughout the spectrum of healthcare
- Consistent and equitable provider offering of CGM

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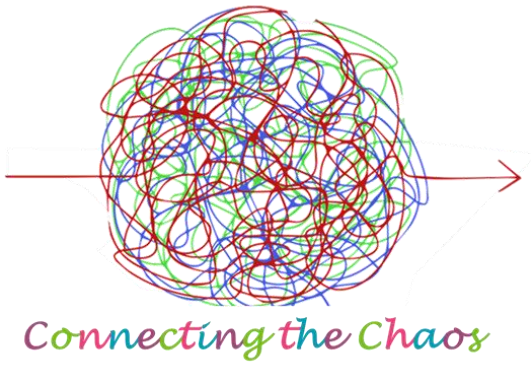
- Provide education/training about CGM (LOR 1)
- Share patient experiences with other patients considering CGM (LOR 2)
- Utilize coordinator roles for the CGM process: Financial counselor, insurance navigator, care coordinator (LOR 2)
- Assessing for technology barriers (LOR 2)
- Assessing for social determinants of health (SDH) (LOR 2)
- Offering patients products to help with CGM ongoing use (LOR 2)
- Initiate access to CGM at CCHMC pharmacy and DME (LOR 2)
- Standardize offering CGM at diagnosis (LOR 2)
- Use creative solutions for patients without a phone or with incompatible phone (LOR 2)
- Advocacy & building community partners (LOR 1)
- Diversity, Equity, and Inclusion training for staff and providers (LOR 1)
- Expand CGM trial program (LOR 2)
- Make list of patients not on CGM (LOR 2)

Legend
- Potential intervention
- Active intervention
- Adopted intervention
- Abandoned intervention

Note: LOR # = Level of Reliability Number, e.g., LOR 1



CONNECTID TECHNOLOGY EQUITY HUDDLE BOARD

AGENDA

- Celebrations
- Data
- Free Phone Program & Letter to Insulet/Omnipod
- Improvement Expo
- Quarterly Planning
- RAIL and Misc. Action Items

BIRTHDAYS

Janis- 1/7	Rajvi- 2/2	Laura- 2/25
Kyle- 4/29	Alison- 6/5	Catherine- 6/25
Amanda- 7/9	Gail- 7/11	Desireé- 7/22
Marissa- 8/31	Amy- 11/1	Jen- 12/1
Molly- 12/3	Sarah- 12/10	Nana- 12/22

STATUS LEGEND

	NO ISSUES: No additional actions requred by leadership
	POTENTIAL ISSUE: Clarify issue, offer support and resources, monitor closely
	ISSUE PRESENT: Leadership removes barrier to progress or reassess solution
ESCALATE	**ESCALATE:** Issue cannot be resolved at this level. Leadership escalates to the next level

Implementation Rolling Action Item List (RAIL)

Key Driver	Intervention	PDSA	Owner	Deadline	Progress Notes	Next Steps	Status
Accurate understanding of CGMs for patients/families	Share patient experiences with other patients considering CGM	Creation of a video and handout Link to Videos	Grant	8/1/2023	Video created. Final edits with videographer.	Plan how to share video with pts/families Create/revise handout to share during offering CGM. Add QR code (with video link) on CGM handout	
Comprehensive understanding of CGMs for staff/providers	Provide education/training about CGMs	Expand diabetes technology training to all CDCES			All training for current CDCES is complete. Will onboard new hires with this information. Central scheduling is now able to schedule pump option and pump start appts	Yet to come is all CDCES will teach pump options (training for this is complete, just waiting on roll-out/logistics). There are some issues to work through for central scheduling-- pump appt	

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Effective and continuous communication about CGM process	Utilize coordinator roles for the CGM process: Financial counselor, insurance navigator, care coordinator			8/1/2023	Kristen Bell-Pryor (Insurance Navigator) completed her orientation and has begun working in the role. Amy/Nana/Gail met with her to review process map. Met with financial counselor to learn how they can support our project-- disseminated information to providers and staff. Signs laminated and hung at Base and Liberty. Coordinator/ Administrator in his role and assisting team/pts	We are moving forward to get Parachute to help with CGM ordering, assisting Insurance Navigator to streamline work-- follow-up with Gail and Kristen about current status (esp regarding work flow) Check back with Kristen to see how it's going.	

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Affordable technology access across the continuum of care	Use creative solutions for patients without a phone or with incompatible phone	Build Your Own Dexcom App Link to Instructions	Town	8/1/2023	Works well, have used with two patients. This is an option going forward to use with android phones not compatible with Dexcom.		
		Free Phone Program	Riley	8/1/2023	We wait until we have pt who needs it to order phone. Will not buy in bulk. Eligible patients: HV, Black, Hispanic pts	Amy to create process map for this progam and add link to RAIL	
Streamlined and patient-centered process for CGM uptake	Assessment of barriers and social determinants of health (SDH)	HEN Project (see that project's RAIL)	Jones				
	Initiate access to CGM technology at CCHMC pharmacy and DME		Jones	7/10/2023	In final stages of this effort, determining last details. CGM/supplies now available at CCHMC base pharmacy. Some patients have used it, and its easy to track status. On one day multiple orders went in and pharm didn't have enough in stock. Many are still prefering their local pharmacy.	CGM/supplies available at Burnet and Liberty Go Live for HME is TBD (soon). Finalizing order sets in Epic.	

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Innovative healthcare delivery system	Expand CGM trial program Link to PDSA Wksh	For two months: Continue using Hello Dexcom kits, and trying to do education in clinic; but if unable to do in-clinic education give families QR code for new Dexcom weekly "start class" for Cincinnati Diabetes Center pts. Families can schedule on own but recommened for staff to schedule this training if time allowing.	Riley	**9/1/2023**	quickly handing them out in clinic, not day hospital at this time At Burnet, Liberty, and N KY, we have G6 and G7 Hello Dexcom trials Sometimes run out of trial kits, but rep is doing best to have as many as possible-- working on process for nurses to reach out if we are running low.	education by Dexcom for starts if unable to do in clinic Beginning plans to spread this to inpatient (at diagnosis or DKA admission... perhaps other admissions also) Hope to trial in September.	
Effective and equitable health care policy and access throughout the spectrum of healthcare		Letter to Omnipod/Insulet	Town	8/1/2023	Letter drafted, Larry reviewed and had edits, Marissa/Amanda made edits and sent back to Larry	Awaiting feedback from Larry and then will send.	
Consistent and equitable provider offering of CGMs	Make list of patients not on CGM Link to PDSA Wksh	For two months: Continue with automated report that shows pts without CGM and pump. CDCES team schedules visits during thier scheduled clinic appt with with Black, Hispanic, and HealthVine pts not on CGM; and HV pts not on pump. If pt has had encounter in the past 6 months with CDCES to talk about tech, visit will not be scheduled unless there was a barrier needing follow-up or education	Riley	**8/1/2023**	Has brought great conversations and outcomes with patients. Since the % on CGM is increasing, the number to schedule is lower. There is a significant number of patients that no show/cancel appts.	Finalize "Next Best" document New PDSA: Continue to look at No CGM list and schedule CDCES visits for Black, Hispanic; and HealthVine patients not on CGM, and HV patients not on pump. She will do a chart review and reach out to families as needed to mitigate barriers for technology uptake and attending appt. Work on drafting Next Best document for barriers identified.	

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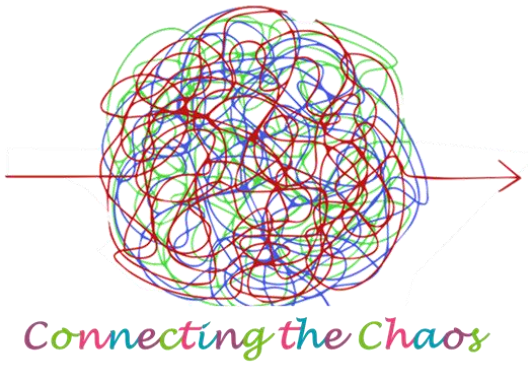

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PDSA Worksheet

Project Title:	**Improving CGM Equity**				
Intervention Name:	**No CGM List**				
What key driver does this test impact?	Accurate understanding of CGMs for patients/families; Consistent and equitable provider offering of CGM				
Test Cycle #:	7	**Test Cycle Start Date:**	1/6/23	**Test Cycle Completion Date:**	2/28/23

PLAN: *(to be completed before the test cycle)*

Describe the intent and structure of the test cycle:

A weekly report of patients not on CGM will be emailed to CDCES. CDCES will identify minority and HealthVine patients coming to clinic the next week. Appts will be scheduled with CDCES on same day to discuss current barriers for starting CGM

What would the successful test look like? Include how you will measure success for this test cycle:

Conversation will enable team to identify barriers to CGM uptake.
Identifying barriers will result in interventions that will increase percentage of patients on CGM

What do you predict will happen? This should be your realistic prediction.

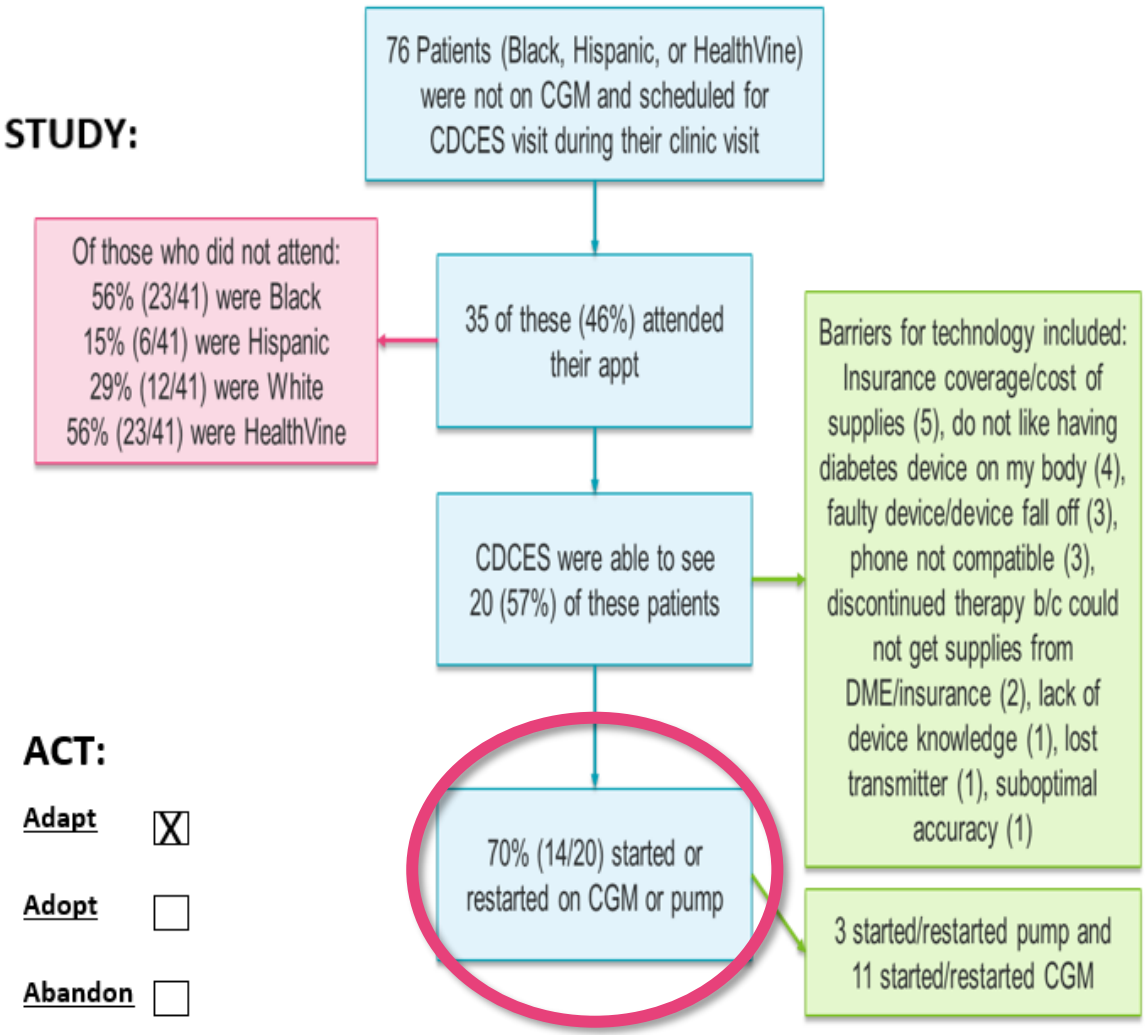
The CDCES will be able to see the majority of patients when they are at clinic. We might not see an increased % of patients on CGM immediately, but with continued use of this intervention we should.

Action steps to carry out the test cycle (who, what, where & when):

Who: CDCES
What: Review weekly report and schedule CDCES visits
Where: In clinic
When: 1 week prior to appt and during appt

DO:

STUDY:



ACT:

Adapt [X]

Adopt [ ]

Abandon [ ]

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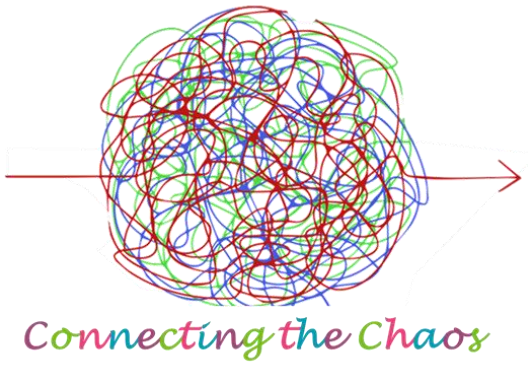

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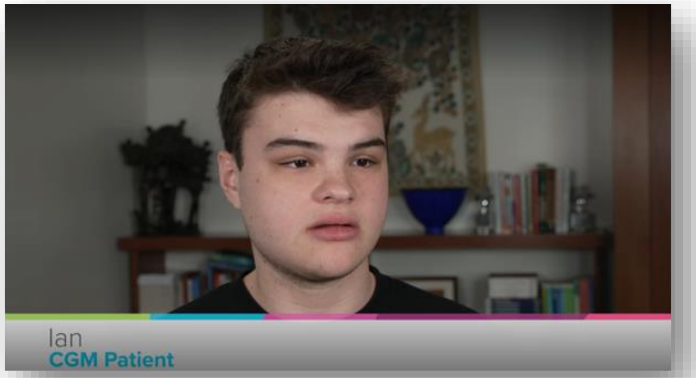
Stories From Those With Lived Experience



Voice Of The Customer

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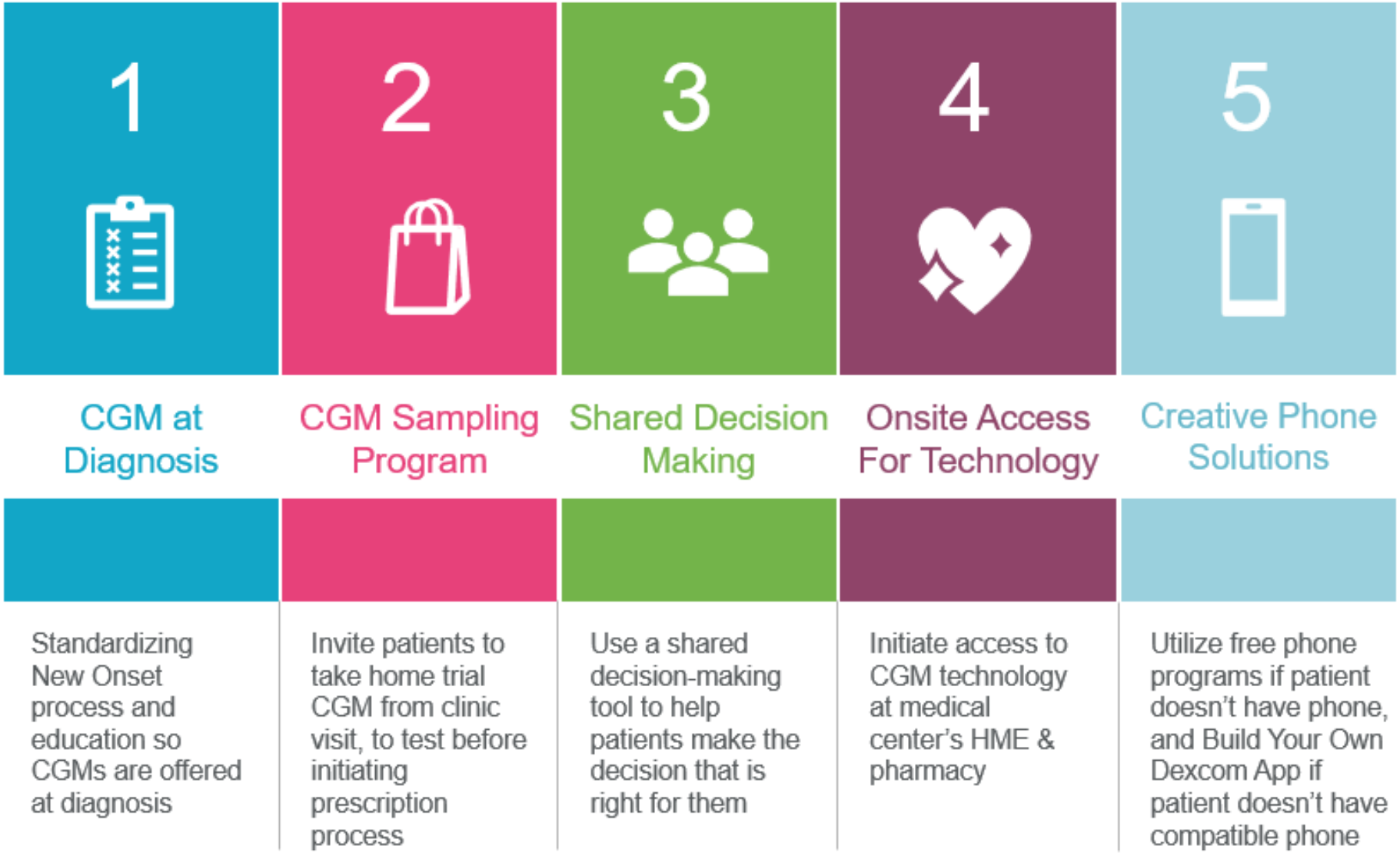
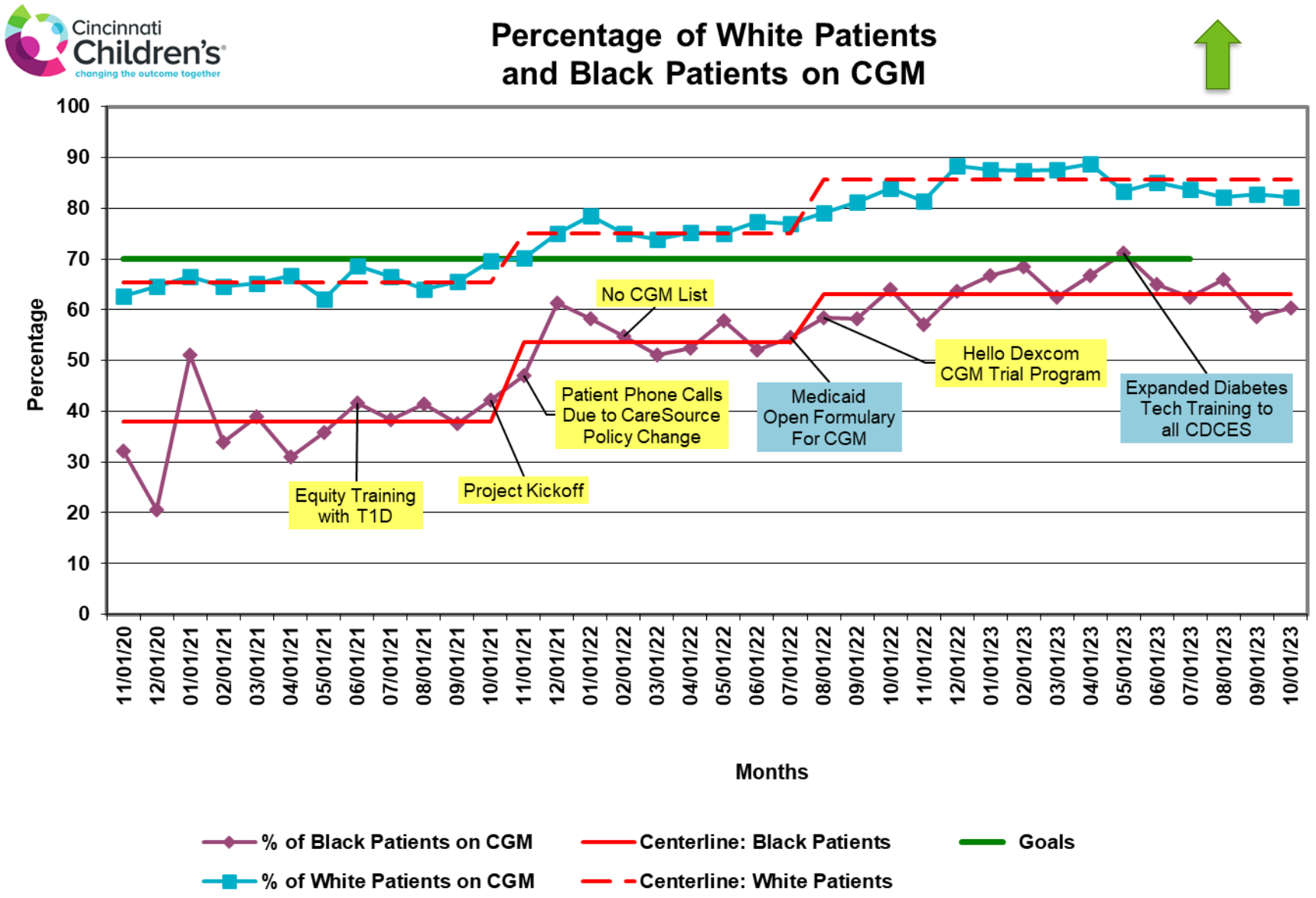
Additional Interventions



Results


Percentage of White Patients and Black Patients on CGM
Percentage
100
90
80
70
60
50
40
30
20
10
0
11/01/20
12/01/20
01/01/21
02/01/21
03/01/21
04/01/21
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07/01/23
08/01/23
09/01/23
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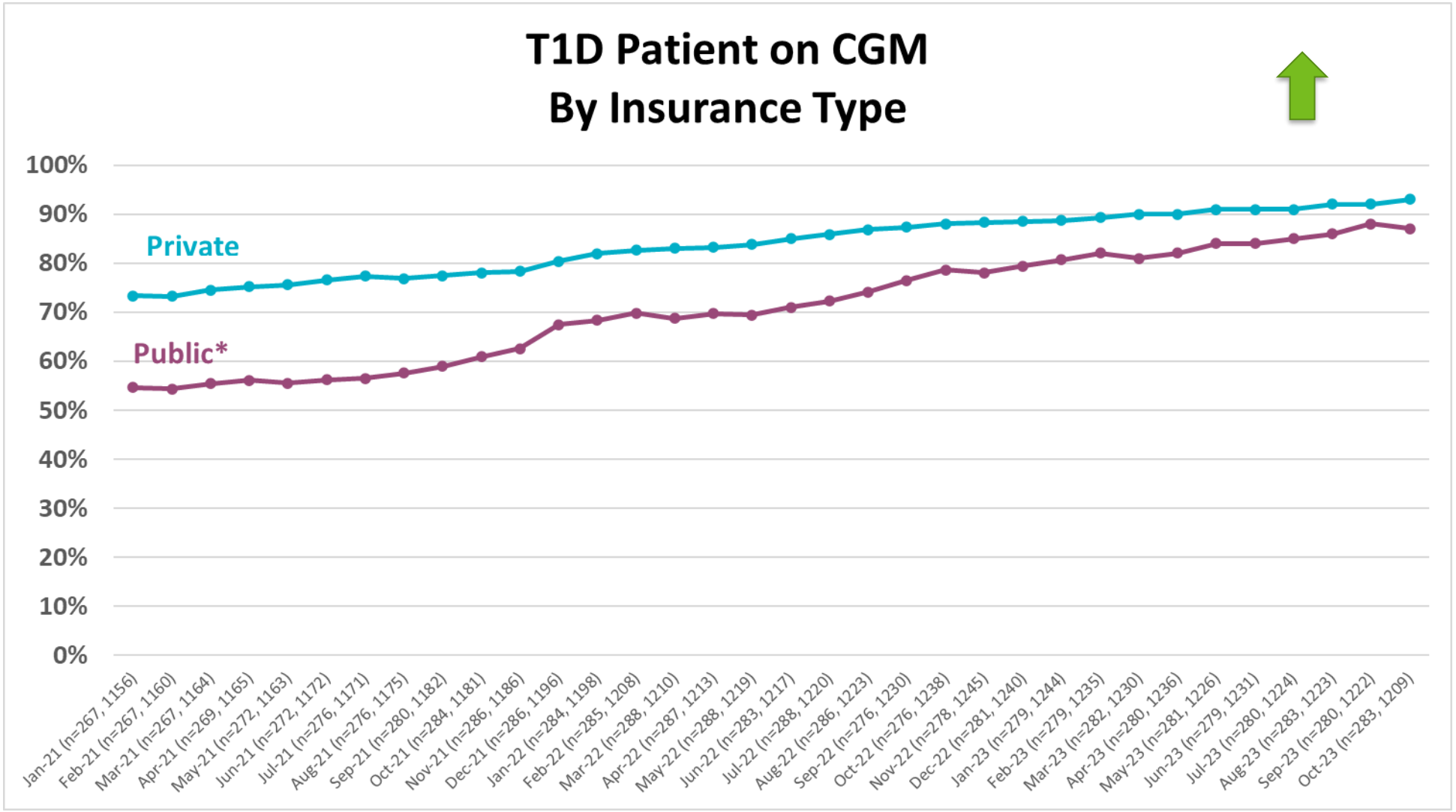
Months
No CGM List
Patient Phone Calls Due to CareSource Policy Change
Medicaid Open Formulary For CGM
Hello Dexcom CGM Trial Program
Expanded Diabetes Tech Training to all CDCES
Equity Training with T1D
Project Kickoff
% of Black Patients on CGM
% of White Patients on CGM
Centerline: Black Patients
Centerline: White Patients
Goals

Results



*Public = HealthVine

Call to Action

Is there disparity in health outcomes for patients in racial and ethnic minority groups?

(THERE IS)

Do these patients want to be healthy?

(THEY DO)

Are they counting on us?

(THEY ARE)

Do we want to help them, stand beside them, and fight for them?

(WE DO)

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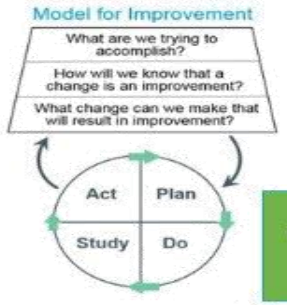

CCHMC Improvement Science Model

Equity is the only acceptable goal.

PAUL FARMER

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in an improvement?

A P S D

Project planning and scoping	Understand current state, define and breakdown problem	Develop measures and set goals	Develop theory for improvement	Design and test changes	Implement and standardize for sustainability	Leverage learnings and improvements achieved

QUESTIONS?

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Advancing Equity in Technology Usage for Patients with Diabetes

UNIVERSITY OF MIAMI

Janine Sanchez, MD; Veronica Figueredo, MD; Mariaester Makacio Morillo, MD; Mariana Nunez Stosic, MD; Patricia Gomez, MD

University of Miami Miller School of Medicine
Jackson Health System
Miami, Florida

UNIVERSITY OF MIAMI

Background

- Despite the availability of technology through most third-party payers, racial and ethnic disparities exist.
- Important to have set clinic policies which advance equity.

UNIVERSITY OF MIAMI

CGM Clinic Policy

- At diagnosis place a sensor – ask which sensor (not if want a sensor)
- Obtain prior authorization if sensor denied
- Determine if continue with which sensor depending on insurance and patient preference
- Try to match sensor to patient's needs and obtain override if insurance denies preferred sensor
- If indigent or unable to pay, place sensor periodically
- Have adult follow sensor

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CGM Clinic Policy

If not wearing sensor:

- Address reasons why not wearing sensor
- Review benefits of sensor (if previously wore, show A1c difference)
- Encourage trial with sensor
- Try to place sensor at visit

CGM Clinic Policy for T2D

- All patients using MDI
- Consider also if taking basal insulin or GLP-1 agonist only
- Consider wearing periodically if unwilling to wear daily
- May need to convince other family members to wear too
- May need to obtain prior authorization

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InPen Clinic Policy

- Start InPen soon after diagnosis (if not on pump)
- Encourage to use with carb ratio but can use fixed dose if patients unable/unwilling to carb count
- Teach how to use InPen in person or telemedicine
- Obtain $35 InPen if not covered by insurance
- Send InPen report monthly if A1c > 8

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Pump Clinic Policy

Discuss pumps if:

- T1D > 3 months and master diabetes basics
- Carb counting (depending on pump)
- Review how pumps work and requirements for pump function
- Must be willing to wear pump and sensor for hybrid pumps
- Encourage hybrid pumps

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Tools to Promote Technology Equity

- Try to have providers who speak same language
- Try to understand cultural reasons to resist technology
- May need to have school nurses, grandparents, siblings, friends, etc. involved
- Patients may not want to say cost is the issue
- Patients may not want others to see devices
- Patients may need help navigating medical system, insurance, pharmacies, and schools

Increasing Insulin Pump Utilization in Public Insured Patients

Anna Cymbaluk[1,2] MD, Christy Byer-Mendoza[1], MSN, RN, CPN, CNS; Kim McNamara[1], RN, BSN, CDCES; Andrea Huber[1], RN, BSN, CDCES; Carla Demeterco-Berggren[1,2] MD, PhD

[1]Rady Children's Hospital, San Diego, [2]University of California, San Diego
San Diego, California, USA

T1D Exchange QI Learning Session

November 2023

Rady Children's Hospital San Diego

T1D Exchange

UC San Diego School of Medicine

Background:

- Utilization of diabetes technology, including insulin pumps, are known to improve glycemic control in youth with type 1 diabetes (T1D), which subsequently improves short- and long-term outcomes.

- There remain significant socioeconomic disparities in the use of diabetes technologies. Studies have shown lower rates of pump use in patients with lower socioeconomic status. Public insurance is an often-used proxy for socioeconomic status.

Aim Statement:

Increase the percentage of public insured patients with type 1 diabetes on an insulin pump from 30% on April 1st, 2022 to 40% by May 31st, 2023.

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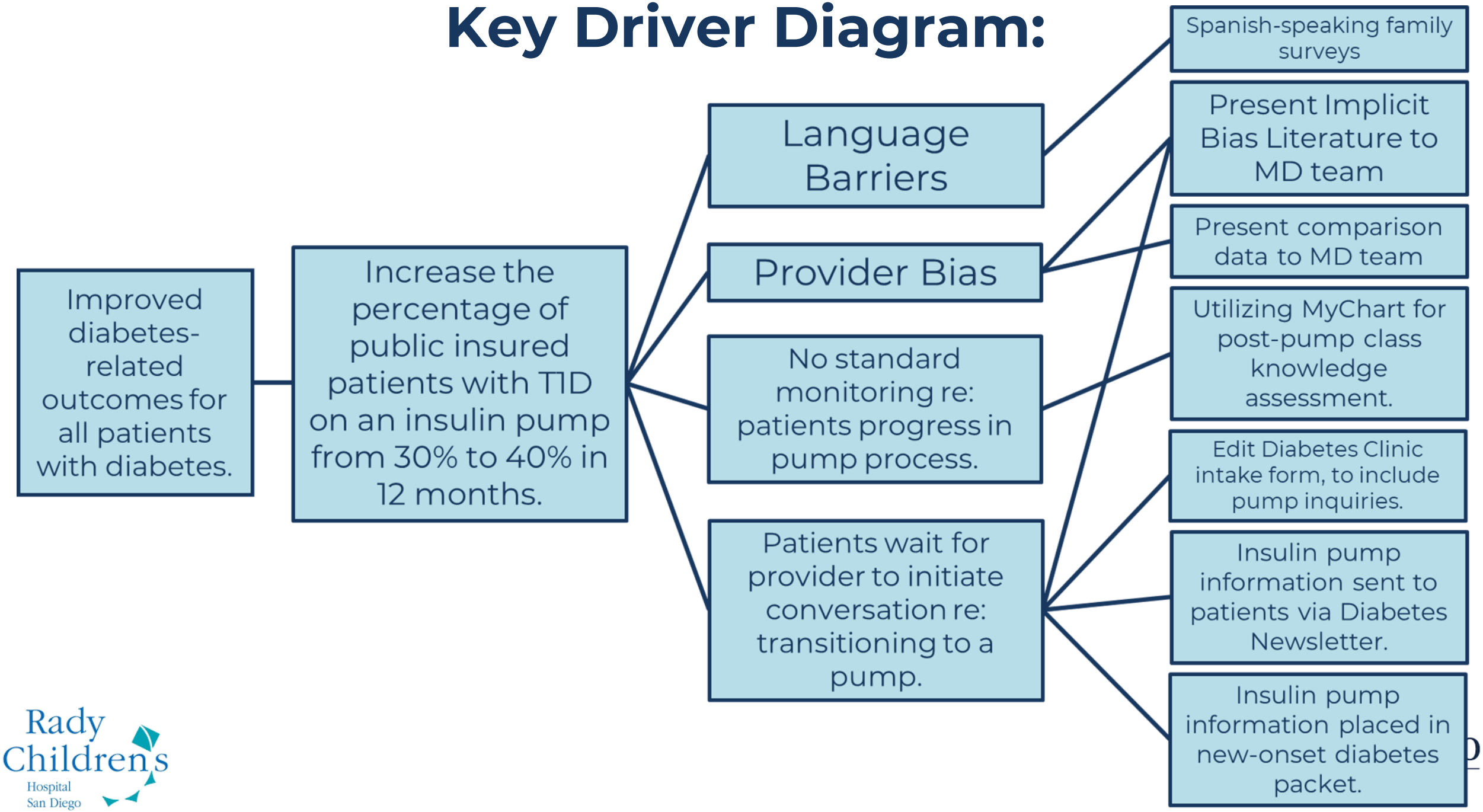
Key Driver Diagram:



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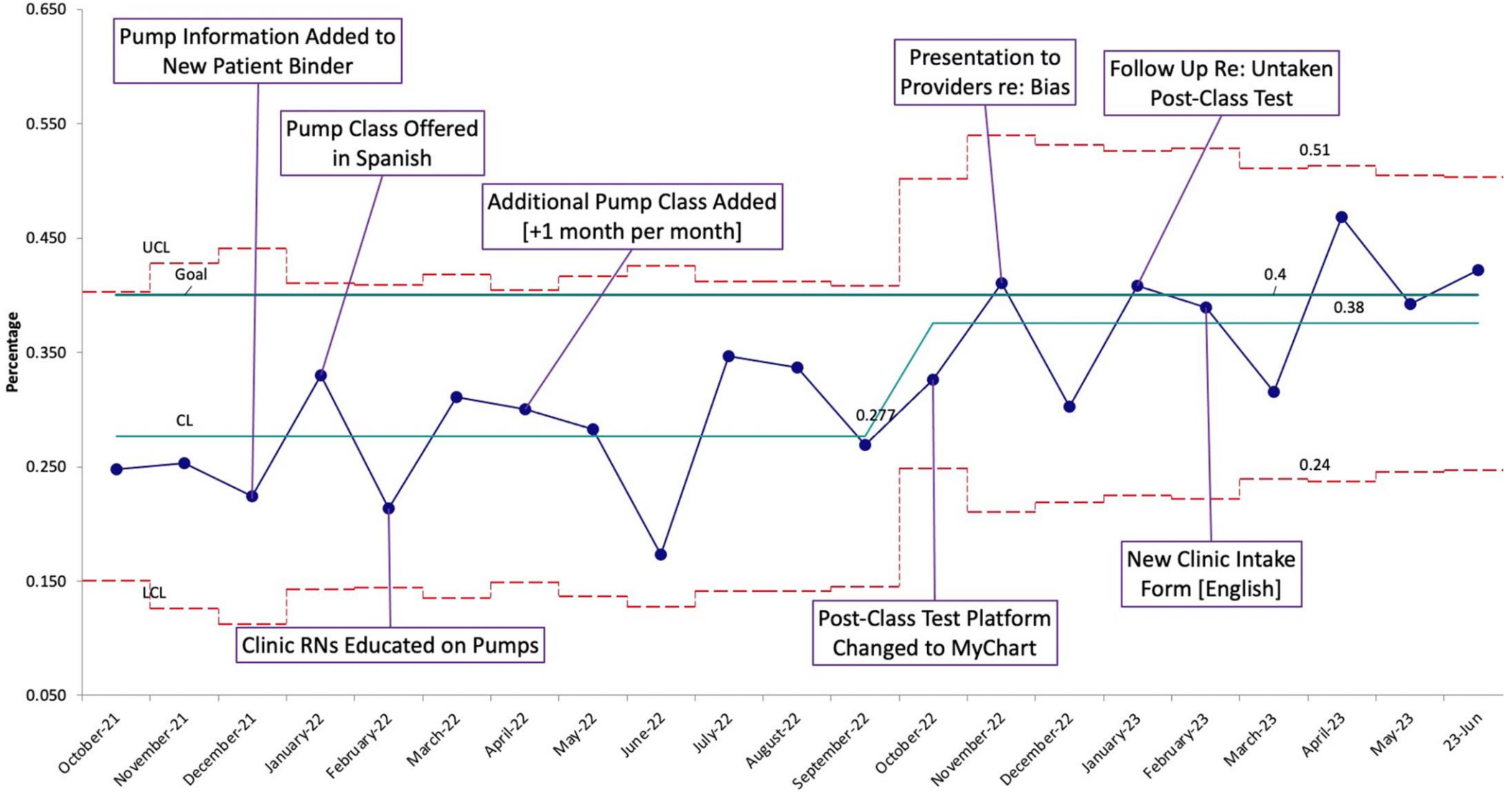
Interventions & Results:



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Results:

As of June 2023, the percentage of public insured children with T1D utilizing an insulin pump increased from 30% in April 2022 to 42% in June 2023 (exceeding our goal of 40%).

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Conclusions:

- Health equity-focused interventions and addressing provider bias can impact diabetes technology access.
- Staff training and efficient workflow substantially increased insulin pump use among all public insured children and adolescents with T1D.
- Continued new strategies to address health inequities and increase technology use in TID are needed to improve outcomes.

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QUESTIONS?

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Keck School of Medicine of USC

Reducing Requirements for Pump Referral Improves Pump Initiation for Publicly Insured Patients

Lily C. Chao, MD, MS

Clinical Director of Diabetes

Center for Diabetes, Endocrinology, and Metabolism

November 14, 2023

2022:
1834 T1D patients

- **Race/Ethnicity:**
  - 31% White, 5% Black, 3% Asian, 61% Other
  - 41% Hispanic
- **Insurance**
  - 57% publicly insured
- **Language at home**
  - 81% English, 13% Spanish preferred language
- **Technology**
  - 45% pump, 69% CGM

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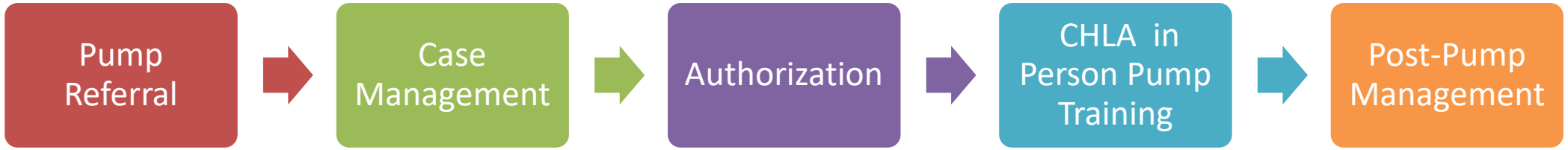
Conventional Pump Referral Workflow



Median time to pump start: 136 days

Privately insured patients (2.5X) and English speakers (1.7X) have higher odds of starting pump

Objectives

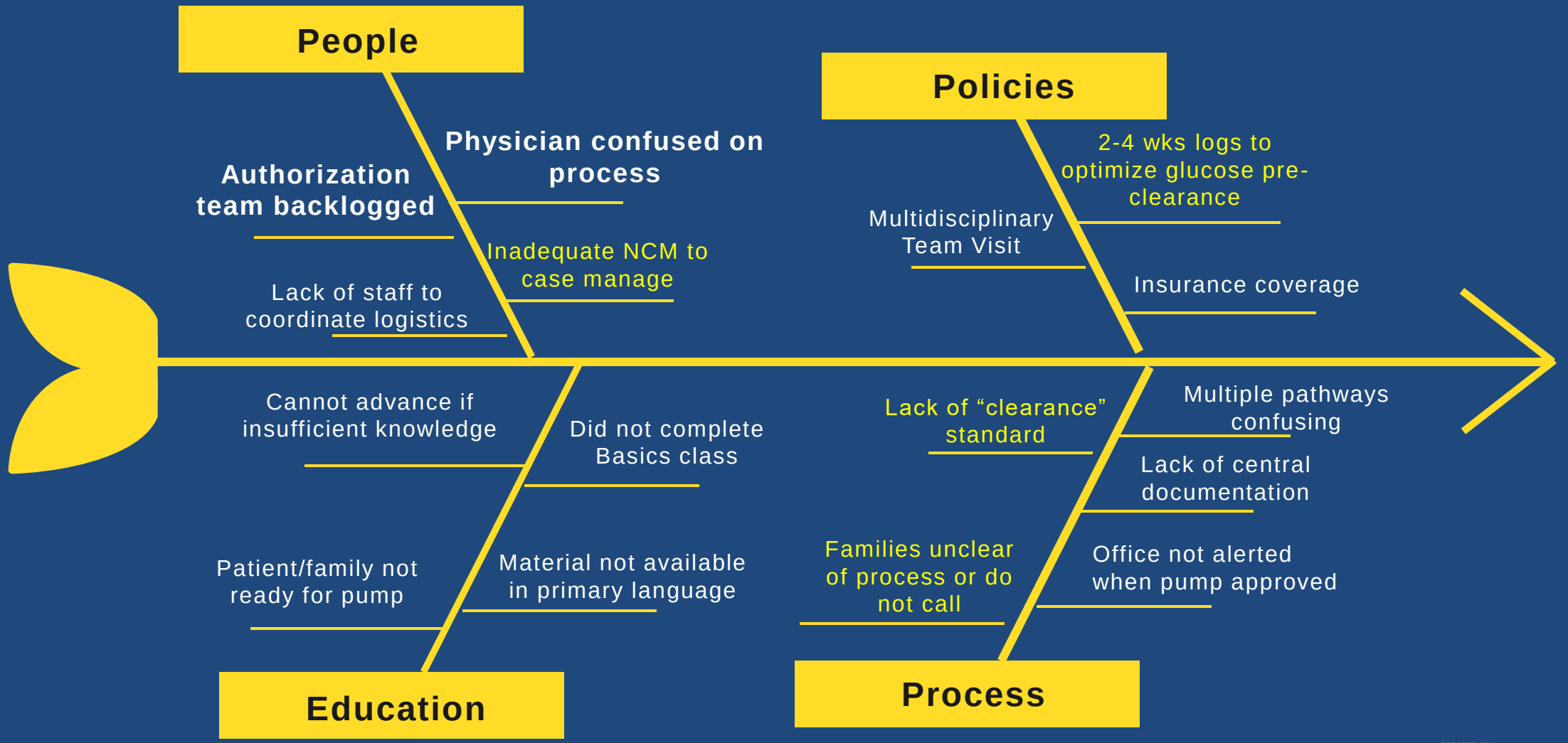
Develop

Develop new pump referral process that improves throughput

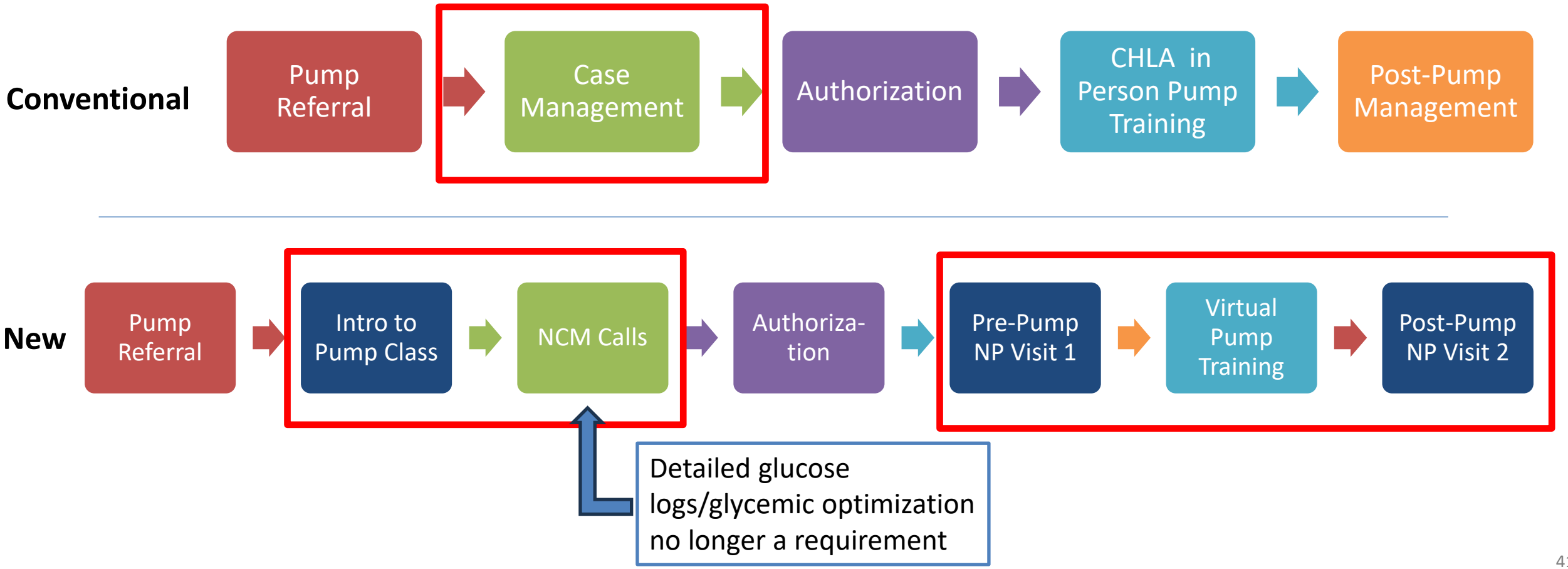
Reduce

Reduce time from referral to pump start by 15% (20 days)

Pump Referral Improvement Fishbone Diagram



Process Change



New Pump Referral Workflow

√	Conventional	New	P Value
N	63	34	NA
%Male	55	58	0.8270
%Public Insurance	71	68	0.8123
Age (yr), mean (SD)	12.0 (4.6)	12.0 (4.1)	0.9713
Diabetes Duration (yr), median (95% CI)	1.6 (1.1-2.5)	1.5 (0.9-4.1)	0.6887
Race/Ethnicity (%)			NA
White	27	26	
Asian	6	0	
Black	6	3	
Latino	19	20	
Other	25	37	
Unknown	16	14	

Improved pump start rate for publicly insured patients

	Conventional	New	P Value
Overall	**22.6%**	**54.8%**	**0.0026**
Insurance			
Public	**11.4%**	**57.1%**	**0.0002**
Private	50.0%	50.0%	>0.999
Days to pump start, median (95% CI)	87 (36-150)	91 (54-124)	0.8373
Medical Management Quiz, mean(SD)	76% (10%)	68% (14%)	0.062

Summary

- Improved pump start rate (54%) in New pump referral pathway compared to the Conventional pathway (23%)
- New pump referral pathway improved pump start rate for publicly insured patients
- Median time to pump start did not change
- Future process:
  - Identify processes that reduce pump start time
  - Develop equivalent pathway for families that
    - Prefer in person training
    - Spanish speaking

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Acknowledgement

- Physicians: Brian Miyazaki, Jessica Ferris, Casey Berman
- NPs: James Connard
- Nursing team: Debbie Miller, Rebecca Barber, Brenda, Kathleen Carney, Jennifer Baldwin
- CCA: Mayra Lopez, Jaylene
- QI Coordinator: Jose Aceves
- CHLA Process Management: Kevin Tran

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Reduction in Hospitalizations for Underserved Young Adults with Type 1 Diabetes

SEAD
Supporting Emerging Adults with Diabetes

Priyanka Mathias, MD; Clyde Schechter, MD; Judith A Long, MD, Shivani Agarwal, MD, MPH

BACKGROUND

- Hospitalizations for young adults with T1D have increased by 40% in the US in the last decade[1,2]

- Highest risk of hospitalization occurs during transition from pediatric to adult care[3]
  - Decreased clinic attendance
  - Prolonged transfer time from pediatric to adult care
  - Personal and social constraints of young adulthood
  - Gaps in health insurance

- Diabetes-related hospitalizations for T1D → Increasing healthcare related costs[1,2]

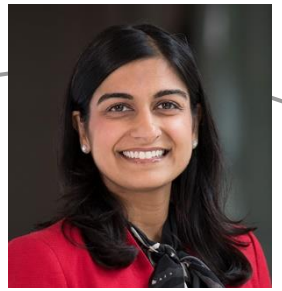
Everett, JCEM, 2021[1]; Benoit, Diabetes Care, 2020[2]; Tilden, Diabetes Res Clin Care, 2022[3]

OBJECTIVES

To examine whether a specialty young adult T1D program reduces hospitalizations

SUPPORTING EMERGING ADULTS WITH DIABETES (SEAD) PROGRAM

- Comprehensive program for YA with T1D
- 18-35 years old
  - > Transition from pediatric diabetes care
  - > Integration into specialty care
- Multidisciplinary team



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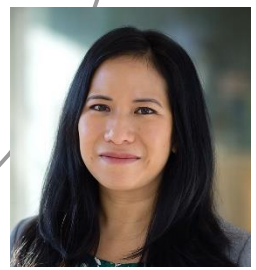

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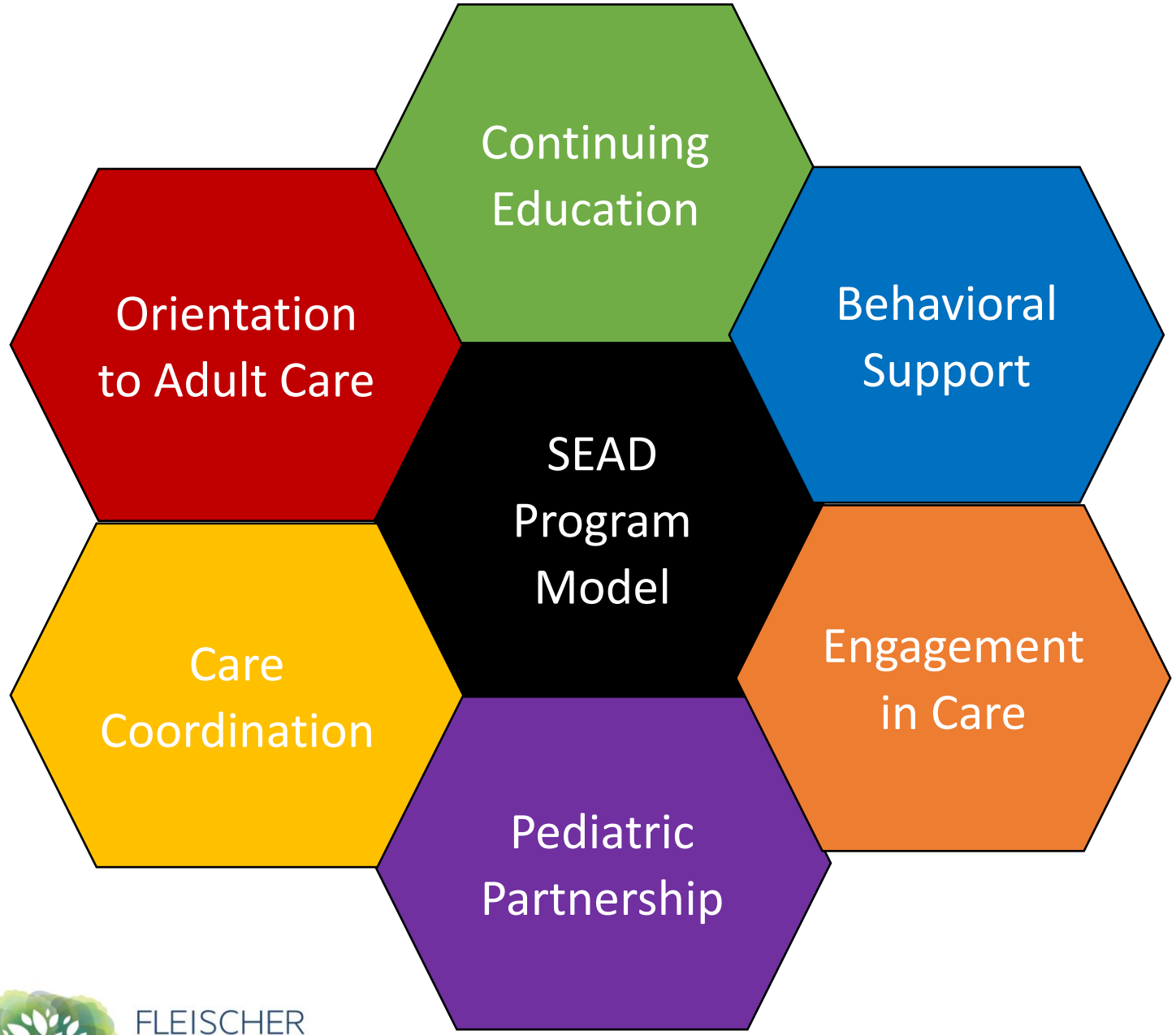

SEAD model

- Technology forward care
- Social needs support
- Re-education
- Psychological support

SEAD goals

- Talk to patients
- Equity focus
- Manage expectations
- Build people up, emphasize positives
- Manage negatives
- Avoid doomsday talk
- "Keep them coming"

Agarwal et al. Diabetes Educator 2016

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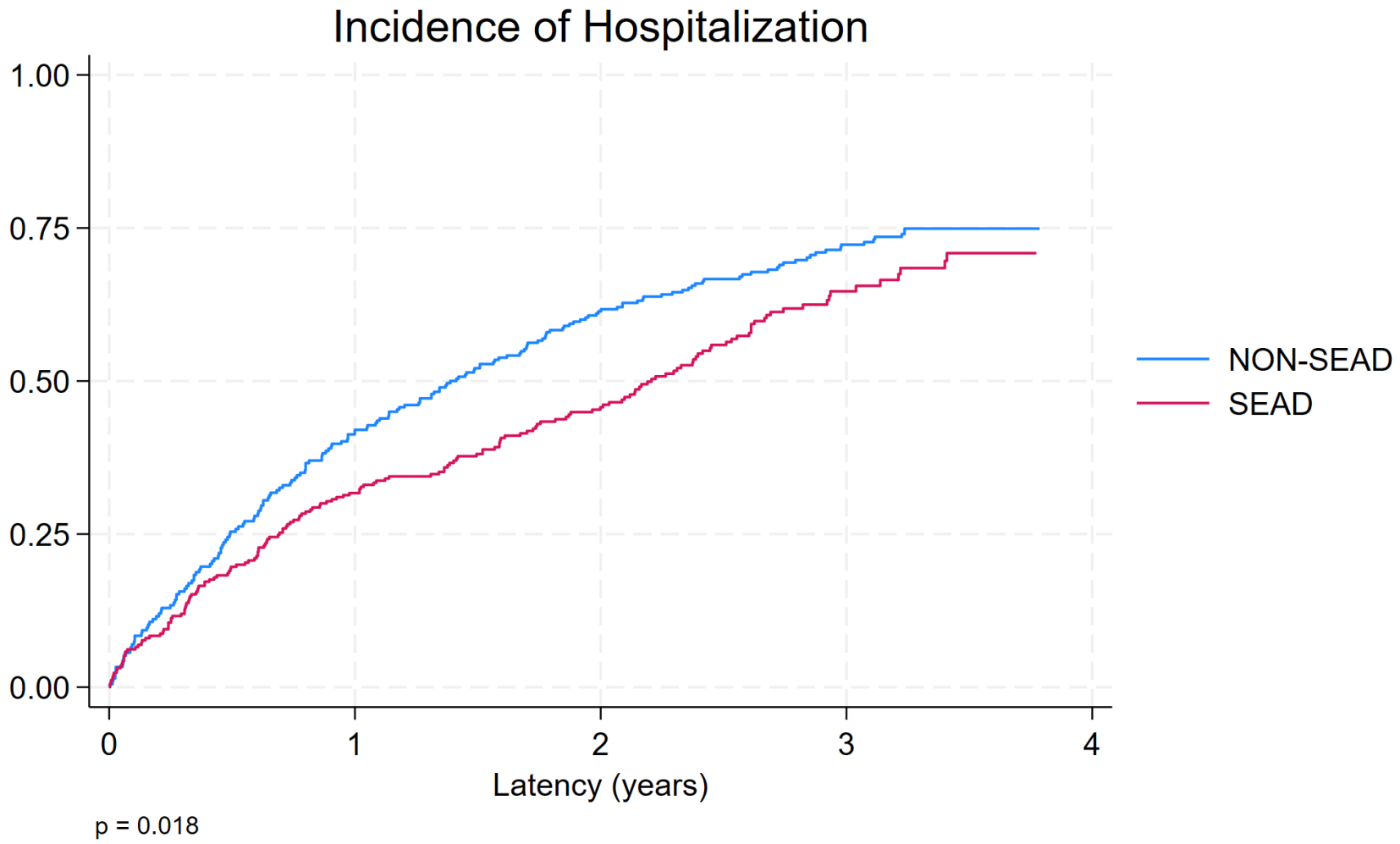
METHODS

- **Inclusion Criteria**
  - Young adults age 18-35 years with T1D
  - Jan 2019 Development of SEAD intervention – Dec 2022 End of Study
- **Study Design**
  - Prospective Cohort (Exposure: SEAD)
  - Comparing SEAD to non-SEAD YA with T1D in Endocrine Care at Montefiore
- **Outcomes:** Diabetes Related Hospitalizations
  - Primary: Incidence of Hospitalizations
  - Secondary: Days spent in hospital
- **Data Source:** Electronic Medical Record
- **Analysis**
  - Cox proportional hazards for incidence of hospitalization
  - Logistic regression for hospitalization days

RESULTS

Mean ± SD n (%)	All (n=416)	SEAD (n=244)	Non-SEAD (n=172)	p-value
Age (yrs)	25.6 ± 4.5	24.0 ± 4.2	27.9 ± 3.9	<0.0005
Sex (F)	80 (46.5%)	117 (48.0%)	197 (47.4%)	0.772
Race-Ethnicity				0.009
Hispanic	193 (46.4%)	117 (48.0%)	76 (44.2%)	
Non-Hispanic Black	121 (29.1%)	58 (23.8%)	63 (36.6%)	
Non-Hispanic White	42 (10.1%)	32 (13.1%)	10 (5.8%)	
Other	60 (14.4%)	37 (15.2%)	23 (13.4%)	
Insurance				<0.005
Public	208 (50.0%)	101 (41.4%)	107 (62.2%)	
Commercial	205 (49.3%)	142 (58.2%)	63 (36.6%)	
HbA1c (%)	9.2 ± 2.3	9.2± 2.4	9.1 ± 2.2	0.624

RESULTS: Incidence Of Hospitalization



RESULTS: Incidence Of Hospitalization

SEAD vs. non-SEAD HR [95% CI]	Hazard Ratio Incidence of Hospitalization	Hazard Ratio Incidence for Baseline HbA1c ≤9%	Hazard Ratio Incidence for Baseline HbA1c >9%
Crude	0.754 [0.605, 0.939]		
Adjusted*	0.800 [0.636, 1.007]	1.06 [0.73, 1.54]	0.66 [0.49, 0.88]

***Adjusted for: age, sex, race-ethnicity, language, history of ketoacidosis, and history of psychiatric illness**

RESULTS: Hospital Days

Hospital Days per Year	Non-SEAD	SEAD	Difference
Crude	1.66 [1.55, 1.77]	1.11 [1.03, 1.20]	-0.55 [-0.69, -0.40]
Adjusted*	1.62 [1.50, 1.73]	1.12 [1.04, 1.21]	-0.49 [-0.64, -0.35]

***Adjusted for: age, sex, race-ethnicity, language, history of ketoacidosis, and history of psychiatric illness**

CONCLUSIONS

- Young adults with T1D receiving care in SEAD versus non-SEAD:
  - 20% less likely to be hospitalized
  - Spend less days in hospital
  - More pronounced benefit for high-risk young adults (Baseline HbA1c >=9%)

- Improvement in hospitalization outcomes could have long-term impacts on longitudinal YA outcomes and overall cost effectiveness.